

# NASA TECH BRIEF



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## Technique for Strip Chart Recorder Time Notation

### The problem:

To determine the time an event is recorded on the readout of a strip chart recorder, timing marks or "tics" must be placed on the strip. These may be made by a timing motor and cam-driven switch automatically or they may be annotated by hand. If entered automatically, the number of minute and hour tics would have to be counted from the beginning of the record in order to establish the time of a specific event. For a lengthy chart this could be a full-time task. It is also, however, a time consuming task to enter the time marks manually.

### The solution:

A single recorder channel is used to present hours, tens of minutes, and minutes by a unique method of time increment identification.

### How it's done:

A change in the hour is represented on the chart as a full scale pulse of duration  $T$ . This is followed by a number of narrow tics, e.g., of duration  $T/10$ , corresponding to the number of tens of hours. After a time delay, a number of tics are recorded which correspond to the number of units of hours. Thus

the sequence—full scale  $T$ -pulse,  $2T/10$  tics, space,  $3T/10$  tics is interpreted as 23 hours. Tens of minutes are represented by a  $2/3$  scale  $T$ -pulse followed by a number of tics corresponding to the number of ten minute increments. Minutes are represented simply by  $1/3$  scale  $T$  pulses at one minute intervals.

### Notes:

1. Advantages of this system are the use of only a single channel plus immediate identification of event time.
2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer  
Goddard Space Flight Center  
Greenbelt, Maryland 20771  
Reference: B67-10196

### Patent status:

No patent action is contemplated by NASA.

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Category 01